

V. CLAIMS

What is claimed is:

1. A method of identifying a compound that inhibits E7 cellular proliferation activity comprising,

5 a) administering a compound to a system, wherein the system maintains Akt activity;

b) assaying the effect of the compound on the amount of Akt activity in the system; and

c) selecting a compound which causes a decrease in the amount of Akt activity present in the system.

2. The method of claim 1, wherein the system comprises an arrest signal.

10 3. The method of claim 1, wherein the arrest signal comprises an inducible Raf protein or conserved variant of the Raf protein.

4. The method of claim 3, wherein the inducible Raf protein is cRaf-1 or a conserved variant of cRaf-1.

15 5. The method of claim 1, wherein the step of assaying the effect of the compound comprises using an antibody for Akt.

20 6. A method of inhibiting E7 cellular proliferation activity comprising administering a compound, wherein the compound decreases the amount of Akt activity, wherein the compound is defined as a compound capable of being identified by administering the compound to a system, wherein the system maintains Akt activity, assaying the effect of the compound on the amount of Akt activity in the system, and selecting a compound which causes a decrease in the amount of Akt activity present in the system.

7. A method of inhibiting E7 cellular proliferation activity comprising administering a compound that decreases the amount of Akt activity.

25 8. A method of making a composition capable of inhibiting E7 cellular proliferation activity comprising mixing an E7 inhibiting compound with a pharmaceutically acceptable carrier, wherein the compound can be identified by administering the compound to a system, wherein the system maintains Akt activity, assaying the effect of the compound on the amount of Akt activity in the system, and selecting a compound which causes a decrease in the amount of Akt activity present in the system.

9. A method of making a compound that inhibits E7 cellular proliferation activity comprising,

30 a) administering a compound to a system, wherein the system causes maintenance of Akt activity,

b) assaying the effect of the compound on the amount of Akt activity in the system,

c) selecting a compound which causes a decrease in the amount of Akt activity present in the

system, and d) synthesizing the compound. 10. A method of identifying a compound capable of reversing the effect E7 has on Akt comprising,

a) administering a compound to a system, wherein the system comprises E7 maintenance of Akt activity,

b) assaying the effect of the compound on E7 maintenance of Akt activity, and

c) selecting a compound which inhibits E7 maintenance of Akt activity.

11. A method of inhibiting E7 cellular proliferation activity comprising administering a compound, wherein the compound is identified as decreasing Akt activity.

12. A method of inhibiting E7 cellular proliferation activity comprising administering an inhibitor of E7 maintenance of Akt activity, wherein the inhibitor is a compound capable of being identified by administering the compound to a system, wherein the system comprises E7 maintenance of Akt activity, assaying the effect of the compound on E7 maintenance of Akt activity, and selecting a compound which inhibits E7 maintenance of Akt activity.

13. A method of inhibiting E7 cellular proliferation activity comprising administering an inhibitor of E7 maintenance of Akt activity. 14. A method of making a composition capable of inhibiting E7 maintenance of Akt activity comprising mixing the compound with a pharmaceutical carrier and wherein the compound can be identified by administering the compound to a system, wherein the system comprises E7 maintenance of Akt activity, assaying the effect of the compound on E7 maintenance of Akt activity, and selecting a compound which inhibits E7 maintenance of Akt activity.

15. A method of making a compound capable of reversing the effect E7 has on Akt comprising,

a) administering a compound to a system, wherein the system comprises E7 maintenance of Akt activity,

b) assaying the effect of the compound on E7 maintenance of Akt activity,

c) selecting a compound which inhibits E7 maintenance of Akt activity, and

d) synthesizing the compound.

16. A method of inhibiting E7 cellular proliferation activity comprising administering a compound, wherein the compound is identified as inhibiting E7 maintenance of Akt activity.

17. A method of identifying a compound which promotes the nuclear localization of p21^{Cip1} comprising,

a) administering a compound to a system, wherein the system comprises E7 p21^{Cip1} cytoplasmic localization activity,

b) assaying the effect of the compound on E7 p21^{Cip1} cytoplasmic localization activity, and

c) selecting a compound which promotes p21^{Cip1} nuclear localization activity.

18. A method of promoting p21^{Cip1} nuclear localization, comprising

a) administering a compound to a system, wherein the system comprises E7 p21^{Cip1} cytoplasmic localization activity,

5 b) assaying the effect of the compound on E7 p21^{Cip1} cytoplasmic localization activity, and

c) selecting a compound which promotes p21^{Cip1} nuclear localization activity.

19. A method of identifying an inhibitor of an interaction between Akt and E7 comprising

a) administering a compound to a system, wherein the system comprises E7,

b) assaying the effect of the compound on an E7-Akt interaction, and

10 c) selecting a compound which inhibits E7 Akt interaction.

20. A cell comprising,

a) a regulatable nucleic acid comprising sequence encoding Raf or conserved variant, and

b) a nucleic acid comprising sequence encoding an E7 or conserved variant.

21. The cell of claim 21, wherein the Raf is cRaf-1 or conserved variant.

15 22. A cell comprising,

a) a regulatable nucleic acid comprising sequence encoding Raf or conserved variant and sequence encoding E7 or conserved variant.

23. The cell of claims 20 or 22, further comprising an inhibitor of Akt.

24. The cell of claims 20 or 22, further comprising and inhibitor of E7.

20 25. The cell of claims 20 or 22, further comprising an inhibitor of PI3K.

26. A cell comprising,

a) a regulatable nucleic acid comprising sequence encoding Raf or conserved variant and

b) a nucleic acid comprising sequence encoding cyclin or conserved variant.

27. A cell comprising,

25 a) a regulatable nucleic acid comprising sequence encoding Raf or conserved variant and sequence encoding cyclin or conserved variant.

28. A method of inhibiting aberrant cellular proliferation comprising, administering a compound which inhibits E7 maintenance of Akt activity.

29. The method of claim 26, wherein administering the compound occurs in a subject.

30. The method of claim 27, wherein the subject is a subject who has cancer.

31. A method of inhibiting E7 cellular proliferation activity, comprising administering a compound that promotes or maintains MEK-1 activity.